

**What is claimed is:**

1. A method for inspecting an insulating layer deposited  
or planarized on a substrate in fabrication processes  
5 of semiconductor with a library of optic images, the  
method comprising the steps of:  
collecting standard data for thickness of the  
insulating layer;  
collecting standard data for an optic image of the  
10 insulating layer;  
making a library by matching standard data for the  
thickness and the optic image; and  
inspecting the insulating layer with the library.
2. The method as defined by claim 1, wherein the standard  
15 data for the thickness is data for a particular region  
or the whole of the wafer.
3. The method as defined by claim 1, wherein the standard  
data for the optic image is data for a particular  
region or the whole of the wafer.
- 20 4. The method as defined by claim 1, wherein the optic  
image is stored in analog or digital image.
5. The method as defined by claim 1, wherein the step of  
making a library is characterized in that each optic  
image for the region represented by each thickness  
25 data is determined and a continuous image library for  
each thickness is constructed.